

	A	B	C	D	E	F	G	H	I	J	K	L											
1	UCL Statistics for Data Sets with Non-Detects																						
2																							
3	User Selected Options																						
4	Date/Time of Computation	7/30/2013 11:45:16 AM																					
5	From File	WorkSheet.xls																					
6	Full Precision	OFF																					
7	Confidence Coefficient	95%																					
8	Number of Bootstrap Operations	2000																					
9																							
10	DDx																						
11																							
12	General Statistics																						
13	Total Number of Observations	67		Number of Distinct Observations				61															
14	Number of Detects	47		Number of Non-Detects				20															
15	Number of Distinct Detects	47		Number of Distinct Non-Detects				14															
16	Minimum Detect	0.2		Minimum Non-Detect				0.18															
17	Maximum Detect	6.695		Maximum Non-Detect				1.8															
18	Variance Detects	1.365		Percent Non-Detects				29.85%															
19	Mean Detects	2.022		SD Detects				1.168															
20	Median Detects	2.053		CV Detects				0.578															
21	Skewness Detects	1.498		Kurtosis Detects				4.903															
22	Mean of Logged Detects	0.515		SD of Logged Detects				0.693															
23																							
24	Normal GOF Test on Detects Only																						
25	Shapiro Wilk Test Statistic	0.893		Shapiro Wilk GOF Test																			
26	5% Shapiro Wilk Critical Value	0.946		Detected Data Not Normal at 5% Significance Level																			
27	Lilliefors Test Statistic	0.127		Lilliefors GOF Test																			
28	5% Lilliefors Critical Value	0.129		Detected Data appear Normal at 5% Significance Level																			
29	Detected Data appear Approximate Normal at 5% Significance Level																						
30																							
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs																						
32	Mean	1.563		Standard Error of Mean				0.152															
33	SD	1.208		95% KM (BCA) UCL				1.83															
34	95% KM (t) UCL	1.817		95% KM (Percentile Bootstrap) UCL				1.824															
35	95% KM (z) UCL	1.813		95% KM Bootstrap t UCL				1.859															
36	90% KM Chebyshev UCL	2.019		95% KM Chebyshev UCL				2.226															
37	97.5% KM Chebyshev UCL	2.512		99% KM Chebyshev UCL				3.075															
38																							
39	Gamma GOF Tests on Detected Observations Only																						
40	A-D Test Statistic	0.915		Anderson-Darling GOF Test																			
41	5% A-D Critical Value	0.757		Detected Data Not Gamma Distributed at 5% Significance Level																			
42	K-S Test Statistic	0.133		Kolmogorov-Smirnov GOF																			
43	5% K-S Critical Value	0.13		Detected Data Not Gamma Distributed at 5% Significance Level																			
44	Detected Data Not Gamma Distributed at 5% Significance Level																						
45																							
46	Gamma Statistics on Detected Data Only																						
47	k hat (MLE)	2.798		k star (bias corrected MLE)				2.634															
48	Theta hat (MLE)	0.723		Theta star (bias corrected MLE)				0.768															
49	nu hat (MLE)	263		nu star (bias corrected)				247.6															
50	MLE Mean (bias corrected)	2.022		MLE Sd (bias corrected)				1.246															
51																							
52	Gamma Kaplan-Meier (KM) Statistics																						
53	k hat (KM)	1.675		nu hat (KM)				224.5															
54	Approximate Chi Square Value (224.47, α)	190.8		Adjusted Chi Square Value (224.47, β)				190.1															
55	5% Gamma Approximate KM-UCL (use when n>=50)	1.839		95% Gamma Adjusted KM-UCL (use when n<50)				1.846															
56																							
57	Gamma ROS Statistics using Imputed Non-Detects																						
58	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs																						
59	GROS may not be used when kstar of detected data is small such as < 0.1																						
60	For such situations, GROS method tends to yield inflated values of UCLs and BTBs																						
61	For gamma distributed detected data, BTBs and UCLs may be computed using gamma distribution on KM estimates																						
62	Minimum	0.01		Mean				1.567															

